FREDERICK COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT



PROGRAMS AND SERVICES

PRESENTED TO

SOLID WASTE STEERING COMMITTEE SEPTEMBER 17, 2015

The purpose of this presentation is to take a look at where we are coming from, in the hope that it will provide a foundation of understanding as we plan what's next in solid waste management. These slides will provide an overview of all DSWM facilities, programs and services.

For some of you this a review, and some information will repeat what today's tour group already discussed. We do have staff on hand to answer questions as needed and can go more into depth on any topics of interest, but I thank you for holding questions and comments until the end.

Department of Solid Waste Managment

Less than 40 staff provide all programs and services in three main categories:

- · RECYCLING
- · DISPOSAL
- ENVIRONMENTAL



- •The Department of Solid Waste Management is responsible for services and programs that affect all Frederick County households and businesses.
- From office to field work, this includes planning, oversight, maintenance, customer service, outreach & education all aspects of SWM. This is achieved with less than 40 staff members. This includes administrative staff, technicians, mechanics, equipment operators, laborers, weighmasters and program coordinators.
- We operate a transfer station, a sanitary municipal landfill, a closed landfill, a mulching and composting operation via our yard waste processing facility, a recycling drop-off center. We also manage several contracted services, including the curbside collection of residential recycling. Our management does not extend to trash collection service, which is provided by municipalities or private haulers and contracted by municipalities, homeowner's associations or individual residents.
- Our facility is open to the public almost 60 hours per week. Only materials generated in Frederick County are managed.

Our long-term goals and objectives and our daily work are guided by the framework laid out in the 10-year solid waste management plan, a document created in support of the County's Comprehensive Plan.

How Operations Are Funded

Department of Solid Waste Management programs and services are funded through:

- TIPPING FEES
- SYSTEM BENEFIT CHARGE (SBC)*

We operate as an ENTERPRISE FUND, receiving no tax (General Fund) monies.

*http://www.frederickcountymd.gov/1964/System-Benefit-Charge-SBC

- The tipping fees account for the majority of the funding
- •The purpose of the SBC is to pay a portion of the reasonably anticipated capital costs and operating costs for the disposal of solid waste. The budget includes funding for costs associated with both recycling programs and waste disposal.
- The SBC is an annual charge included on the County's property taxes and fees bill.
- •((The charges are for both residential and non-residential properties. Residential rates are applied per dwelling unit for both single family (\$88) and multi-family properties (\$49). The bill shows the assigned Waste Generator Category (Single Family or Multi-family for residential and Low, Medium low, Medium, Medium high or High for non-residential), the number of billing units and the approved rate per billing unit for the assigned generator category. All information for the assessment of a property is based on the Maryland State Department of Assessments and Taxation's records.))



One of the notable programs our funds are invested into is the residential recycling program. Although the fleet of blue carts and trucks may be the most easily recognized component of Frederick County's recycling programs, a wide array of other recycling activity is occurring county-wide.

RECYCLABLES

The Department of Solid Waste manages:

- residential, single-stream contracted curbside collection program
- single-stream recycling drop-off center
- single-stream recyclables transfer operation (commercial and residential)
- drop-off site recycling programs for other materials
- yard waste recycling



The Department manages a variety of recycling services.

Although most waste collection is handled by the private sector in Frederick County, residential recycling collection was taken up by the County because there was it was not occurring before the County became involved in the late 80's and early 90's.

By providing recycling opportunities for our residents, our department's work in this area supports overall County Government objectives as well as compliance with Maryland State legislation.

MARYLAND RECYCLING ACT

Frederick County's Recycling Rate:

49.5% (for 2013)

• Not including: antifreeze, motor oil, cleaning fluids, scrap metal, scrap automobiles, land clearing debris (includes tree stumps and vegetative debris), sewage sludge, construction/building materials- asphalt, concrete, wood



- In 1988, the Maryland Recycling Act (MRA) authorized the Maryland Department of the Environment to reduce the disposal of solid waste in Maryland through management, education and regulation.
- Measured materials include: Metals, Paper, Plastic, Glass, Compostables and other materials. (Grass, Leaves, and Mixed Yard Waste Wood Waste Food Waste), Fluorescent Light Tubes, White Goods Appliances, Laser Toner Cartridges, Wood Pallets, Lead Acid Batteries and Oil Filters
- Many years, as much Non-MRA materials are recycled in Maryland as traditional recyclables.
- •Frederick County's MRA recycling rate has incrementally increased from 34.3% in 2005 to 49.5% in 2013. Growth of this rate over the last few years has become slower.
- •The recycling rate is dependent on many factors, including the state of the economy (sometimes inversely related) and on voluntary reporting levels.



In addition to tracking recycling efforts, the County and the State assess local efforts to prevent and reduce waste overall.

The Waste Diversion Rate is calculated by taking our Recycling Rate and adding points earned for specific waste reduction activities. Up to 5 percentage points, referred to as Source Reduction Credits, may be awarded by the Maryland Department of the Environment.

Since 2009, we have earned the maximum 5% credit each year.

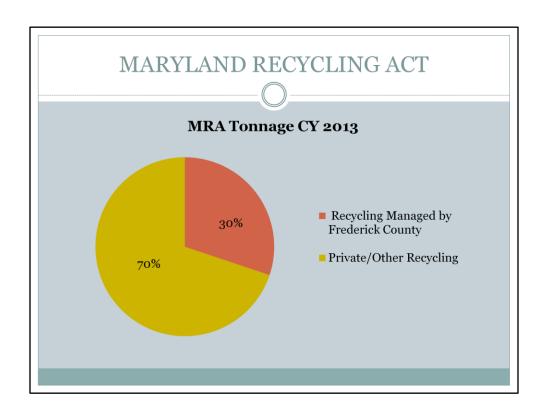
The source reduction credit recognizes the important role source reduction plays in waste management. Some examples of our source reduction activities include: advertising waste reduction "green tips" at the winter holidays, promotion of grasscycling in spring, offering a business waste reduction award in fall, and conducting home composting classes.

These and other activities work to support the overall goal adopted by Frederick County Government to attain a waste diversion rate of 60% by 2025 (a goal set by BOCC in 2007).

((Maryland's jurisdictions can earn up to a 5% source reduction credit that counts towards their Waste Diversion Rate. This is divided into a 2% source reduction credit can be earned for programs that promote the reduction of yard trimmings, and a 3% source reduction credit can be earned for programs that reduce waste in general.))

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- •In addition to the materials directly managed by our operations, private entities may recycle using other available options.
- •These activities are tracked through MRA reporting. Although businesses are not required by law to report their recycling activities, our department annually requests this information.



As you can see, more than 93,000 tons of recyclable material were handled privately in 2013. Of the approximately 134,000 tons we reported as being recycled in Frederick County, about 30% of this tonnage was managed through County government programs.

SINGLE STREAM RECYCLING

Annual curbside collections:

o 2009: 16,476 tons

o 2010: 19,085 tons

o 2011: 19,770 tons

o 2012: 20,174 tons

o 2013: 19,907 tons

o 2014: 20,093 tons

Annual commercial tonnages

(delivered to transfer station):

o2009: 354 tons

o2010: 554 tons

o2011: 647 tons

o2012: 1,234 tons

o2013: 2,418 tons

o2014: 2,417 tons

Single-stream recycling in total, 2009-2014 139,054.49 tons

The main components of the county's single-stream recycling program are:

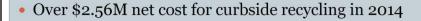
Residential, single-stream curbside collection, a program that has collected more than 115,000 tons tons since its inception in January 2009

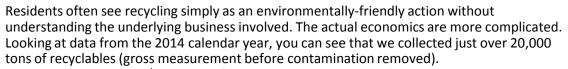
Our single-stream recycling tipping program, which allows commercial entities to recycle by bringing materials to our facility, and through a reduced tipping fee, provides a cost incentive for them to do so.

A single-stream recyclables transfer operation – which moves locally collected recyclables to a materials recovery facility out of county. You can see here that the combination of commercial and residential recycling has produced almost 140,000 tons of recyclables since 2009 (this is the total of all recyclables we transferred). *including CORP, FCPS, DOC and FCC.*

CURBSIDE RECYCLING COSTS & REVENUES ~2014~

- Curbside collection cost per home is \$3.20 per month
 - Over 76,000 homes eligible to participate
 - o Contracted bi-weekly collection
 - o Collection contractor was paid over \$2.8 million in 2014
- Materials are transferred out of county for sorting and sale
 - Fees include transportation and processing
- Recycling revenue was \$236,549





We paid our contractor \$2.8 million for the curbside collection of these materials.

The sorting facility operated by Waste Management Recycle America sold these materials for a net revenue of \$236,549.

Doing this math shows that it cost the County over \$2.5 million to collect recycling from homes and have it transported and processed for recycling.

FY 16 collection cost estimate (curbside) = \$3,010,915.06 (this is what was budgeted)

Tonnage in CY14 for curbside = 20,092.98 tons (gross before contamination removed)
Paid \$2.8 million for curbside collection of these materials

WMRA NET revenue = \$236.549

This means that it cost the County over \$2.56 million to collect recycling from homes and have it transported and processed for recycling.

Tonnage in CY14 for commercial single stream and tipping revenue = 3,770.43 tons (gross before contamination removed)

WMRA GROSS = \$371,652.01 WMRA NET =\$45,016.37 TIPPING REVENUE = \$70,294.75 TOTAL NET REVENUE= \$115,311.12



Another factor in the program's economics is the provision of recycling carts to participating households. Every single-family home is entitled to receive one cart for no charge, with the option of 3 different cart sizes.

More than 73,000 carts have been purchased so far, with a majority of these distributed in 2009, during the County's change to single-stream recycling. We continue to increase our inventory of 95-gallon carts due to popular demand.

The ongoing management of this inventory is a daily endeavor, given the cost invested into the carts.



In addition to curbside collection, we also manage recycling drop-off programs that allow a variety of materials to be diverted from the waste stream.

In addition to the recycling activity at our Reichs Ford Road Recycling Center, the County provides up to \$10,000 annual cost reimbursement for the documented expenses of municipalities that host a recycling drop-off site. Five municipalities participate in this program. (Brunswick, Emmitsburg, Middletown, Thurmont and Walkersville)

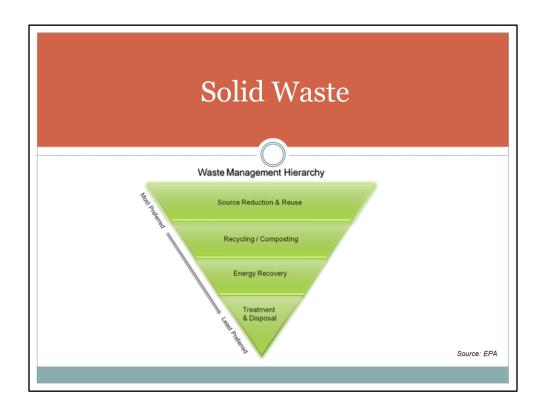


Source-separated yard wastes were banned from disposal in 1994 by the State.

All yard waste disposal (including commingled) was banned by County Ordinance in 2006.

A second site offers residents only (not for commercial/business use) a drop-off option at Walkersville's Heritage Farm Park. This site is not staffed and is open 7 days a week. Materials collected there are simply ground and left for the public to take at no charge.

~HAVE RICKY'S TONNAGE CHART PRINTED AND ON HAND~



The recycling, composting and waste reduction activities we've been looking at are extremely important to our department's philosophy and management practices, but a significant amount of waste still remains to be dealt with.

In line with the EPA's waste hierarchy, our solid waste management practices address disposal options as the least preferred option. But, if it is not feasible to recover the resources, what are the best strategies to manage what remains?

SOLID WASTE

The Department of Solid Waste Management is responsible for:

- The county's only public landfill facility
- Waste transfer operations
- Special disposal programs
- Environmental compliance
- · Health and safety compliance



We are responsible for the County's only public landfill, as well as the transference of waste out of county for materials not kept on site. We also offer special disposal programs and in all our work we are responsible for complying with environmental, health and safety regulations.



- We are responsible for management of the currently operating solid sanitary landfill (site B) as well as monitoring and managing the closed landfill (site A).
- •Site A Landfill is approximately 72 acres. Was started in 1969 and stopped accepting waste in 1997. Waste buried in this site includes yard waste, glass bottles and jars, tin and steel cans and other items that are now collected for recycling.
- Site B landfill is approximately 58 acres.
- Cell 3 (12 acres) is currently operational with 691,000 tons of capacity.
- Received MDE approval for a vertical expansion of entire site B landfill; this increases side slope steepness and raises overall height providing for an additional capacity of 1 million tons, including cover soil.
- Site B landfill is anticipated to last until at least 2045 using the current mode of limited disposal (8,000 tons per year) and transferring the rest off site.



- •By law, the Enterprise Fund must include post closure set aside money for at least 30 years to fund environmental compliance, including Site A Landfill which collected no tipping fees for many years.
- •This large monetary commitment is built into the tipping fee each year.

LANDFILL GAS TO ENERGY

- Gas is extracted from both Site A and Site B landfills
- Up to 2 megawatts of electricity can be generated continuously

Both the Site A and B landfills are involved with active methane gas extraction. Any electricity generated is placed back on the local electrical grid and sold to the public with the county sharing in the revenue. This system could generate up to 2 mw of electricity, with up to 2,000 homes powered from the methane produced at our site.

The site B system was paid for by a private developer, shedding the infrastructure costs to the County and the project is part of a service agreement managed through the Northeast Maryland Waste Disposal Authority.

WASTE TRANSFER

- In 2014, approximately 94% of Frederick County's waste was transferred out of state for disposal at other landfill facilities.
 - Over 1,515,118 tons were transferred between 2005-2014.
 - Transfer costs 2005-2014 \$85,899,299. (Contract disposal and transportation costs only)





This does not reflect internal costs, such as staff, equipment and maintenance and other facility operations costs.

*This is all back-up data

Transfer MSW - Tons Out

2005: 10,165.64 2006: 257,926.93 2007: 204,319.69 2008: 171,401.24 2009: 156,435.76 2010: 143,546.23 2011: 144,348.59 2012: 139,692.11 2013: 138,226.08 2014: 149,056.20

OTHER PROGRAMS

Special Programs

- · Household Hazardous Waste drop-off events
- Pesticide container recycling thru Maryland Department of Agriculture
- Periodic compost bin sales
- State grant funded events such as Tire Amnesty Day or Electronics Recycling events



ENVIRONMENTAL COMPLIANCE

- Groundwater monitoring and analysis from over 50 sample locations, both semi-annual and monthly
- Refuse Disposal and Transfer Permit Compliance Program
- Gas monitoring and gas well field balancing
- Combustion monitoring for Gas-to-Energy production plant
- Title V Air Pollution Compliance Monitoring

ENVIRONMENTAL COMPLIANCE

- Radioactive Waste Screening
- General Waste Screening for Unacceptable Materials
- Asbestos acceptance compliance program
- Natural Wood Waste and Composting Program monitoring including 70 daily temperature readings and 54 weekly oxygen readings
- Stormwater Permit Compliance Program



And then, it is our job to communicate the work we do to the public, to maximize the reach and impact of our programs and services.

Categories of Outreach

- Printed Materials
 - o mailings, handouts, guidebooks, posters
- Advertising
 - o radio, print, billboard, TransIt, cinema
- Classes & Programs
 - o for community groups, schools, tours, municipal programs
- Special Events
 - o community displays, demonstrations, sales, contests, award programs
- Digital Engagement
 - o websites, social media, videos, mobile app, e-newsletter
- Media Relations
 - o press releases, television/radio interviews

We receive a \$25,000 grant provided annually by Waste Management Recycle America to fund outreach directly related to recycling. In addition to these funds we spend approximately \$41,150 on printing, advertising and other miscellaneous costs, including outreach spending for waste reduction initiatives.

Press releases are issued for various notifications, such as inclement weather and its effect on facility openings and curbside collection services, upcoming special events information such as HHW day, etc.

These outreach offerings are conducted by one outreach coordinator and a very small contingent of other recycling office staff.

WORK IN PROGRESS

- Currently bidding both curbside recycling collection and recycling cart contracts.
- A 10-year update of the Solid Waste Management Plan is due by the end of 2017.
- Must either renew or rebid waste transfer by October 2017 (25 months away).
- Solid Waste Initiatives Study is estimated to take 18 months.
- As we move forward it is important to note that our department is currently bidding both curbside recycling collection and recycling cart contracts.
- As well as working on updates to the Solid Waste Management Plan.
- And as we know, the waste transfer contract must be rebid or renewed by October 2017.